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ABSTRACT

This study investigated whether the teaching of a classification system of context clues will help children to better use context clues and improve their comprehension. One hundred twenty-seven students selected from grades 3-5 in two schools served as subjects. One school was designated as the experimental school, and subjects were taught cause and effect and direct description context clues using the teaching activities outlined in the Wisconsin Design's "Teachers' Resource File: Comprehension." The other school served as the control and offered no special instruction in context clues. The period of instruction consisted of 10 school days. Significant differences were found favoring the experimental school. Through an analysis of variance on the experimental school only, significant differences were found between grade levels and across all three grade levels. One implication was that certain instruction in context clues could begin at least by third grade--or perhaps sooner with material of appropriate difficulty. (WR)

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DOES TEACHING A CLASSIFICATION SYSTEM OF CONTEXT CLUES MAKE A DIFFERENCE?

by

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Rationale

Context clues, it is almost universally agreed, are important to children's reading as an aid to word recognition and as a means of deriving word meanings. Inspection of almost any teacher education textbook in reading reveals a discussion of their importance. Usually, context clues are presented in these textbooks by types or categories. Two of the earliest

and most frequently cited classification schemes are those of Artley (1) and McCullough (5). Although other classification systems are sometimes presented, depending upon the textbook consulted, the suggestion is the same--that context clues be presented by types or categories. For example, Karlin (4) recommends:

> To effect the greatest utilization of contextual aids children should learn to recognize common types that they will encounter. Their recognition of these types will aid them to decide what a word means. (p. 185)

Jongsma (3), in studying the cloze procedure, suggests that children can be taught a system of categorization of context clues using the cloze procedure. He states:

> It would appear that the cloze procedure could be employed to teach students the use of context clues. By using one of the classification schemes (for context clues) as a basis for organizing instruction, a series of cloze passages could be developed that would systematically and sequentially lead students to an understanding of specific context clues. (p. 26)

The assumption underlying these suggestions is that teaching a classification system will in fact help children use context clues, and subsequently, enhance their comprehension. This study explores the instructional effects of a classification-based context clue curriculum.

Description of the Classification System

The classification scheme of context clues selected for this study is the one employed by the Wisconsin Design for Reading Skill Development (6), which is a management system for monitoring an individual's progress in skill attainment in grades K-6. This scheme was originally an adaptation of that of Dulin (2), who previously investigated tenth graders' ability to use five types of context clues--synonyms and/or appositives, language

experience, direct description, contrast, and cause-effect--in combination with four parts of speech (nouns, verbs, adjectives, and adverbs). The Design's scheme modified Dulin's approach by omitting two of his devices: synonyms and/or appositives and language experience. Synonyms and/or appositives could not be appropriately adapted for use in the Design's behavioral objectives. Ability to use a language experience device was considered to be dependent on having a variety of background experiences as opposed to having attained a skill.

As part of the Wisconsin Design, criterion-referenced tests were devised to assess children's performance with regard to three specific context clues objectives. The first objective, to use cause-effect and direct description to unlock the meaning of an unfamiliar word, was placed at Level D, or the end of third grade. The second objective, to use direct description and contrast, was placed at Level E (the end of fourth grade). At Level G, the end of sixth grade, the child uses all three context clues to determine the obscure meaning of well known words.

For this study the Level D criterion-referenced test was used. A brief description of the test items for both categories will clarify what behavior was expected of the pupil. In the items for the cause-effect category of context clues, the unknown word (indicated by a blank) is usually located in the independent clause whether the clause occurs before or after the dependent clause. The parts of speech omitted are nouns, verbs, adjectives, and adverbs. Four choices for the correct meaning follow the sentence. An example item is, "Because Holly was so late getting home, her mother began to _____. A, cook; B, wash; C, work; D, worry." In the direct description items the first sentence describes an activity

or situation. The second sentence, which contains a blank for either a noun, verb, adjective, or adverb, essentially "restates" or summarizes the first sentence. A sample item is, "Water oozed out of all parts of the field and some plants even drowned. The pasture was very _____. A, dry; B, green; C, soggy; D, sunny." The Level D tests have undergone a tryout and pilot evaluation with approximately 200 pupils for the construction of parallel forms. Form I, administered to 547 children in the fall of 1973, demonstrated an internal consistency of .77 (Hoyt reliability). The validity of the test rests on the fact that it is a criterion-referenced test measuring a specific behavioral objective.

Procedure

Two schools in Bemidji, Minnesota were selected for the study. Neither school had used the Comprehension element of the Wisconsin Design and, therefore, had no special instructional program for developing context clues. One school, designated as the experimental school, agreed to teach cause and effect and direct description context clues in Grades 3, 4, and 5 systematically for two weeks, presenting the teaching activities outlined in the Wisconsin Design's Teachers' Resource File: Comprehension in addition to any other materials the teachers wished to use. The Resource File contains a number of suggested activities with transparencies, work sheets, and games which provide for practice in the skill. The instructional time of ten school days was selected as an appropriate unit, since the Design recommends this as an optimum length of time for a child to spend in one comprehension skill group at a time. The other school--the control school--agreed to offer no special instructional program in context clues in Grades 3, 4, and 5 during that two-week period.

Form I of the Level D test for context clues was administered by one of the investigators in a third, fourth, and fifth grade classroom in each school in October, 1973. Two weeks later Form II of the same test was administered under the same conditions.

Results

The unadjusted pretest means and standard deviations of the Level D context clues test for experimental and control schools at each grade level are presented in Table 1. Because the schools were not equal in their pretest scores ($F=6.6860$, $df=2/127$, $p < .0018$) an analysis of covariance was performed on the data in order to establish an initial equivalence between the experimental school subjects and control subjects.

Insert Table 1 about here

When looking at the subjects by school regardless of grade, significant differences between the experimental and control schools ($F=4.1212$, $df=1/126$, $p < .05$) were found (see Table 2). In other words, after adjusting for pretest differences, the experimental school receiving the instruction in two types of context clues demonstrated more positive change than the control school did. The adjusted posttest means for the experimental and control schools are 9.8859 and 9.1470, respectively. No significant differences between grades after adjusting for pretest scores were found, nor, was there a significant interaction between grade and condition.

Insert Table 2 about here

To more closely examine the differences between grade levels in the experimental school, a two-way analysis of variance--grade (third, fourth,

fifth) by testing time (pre- and posttest) was performed. This analysis is reported in Table 3. There was a significant difference among grades which was expected ($F = 5.8131$, $df = 2/54$, $p < .0052$) due to older subjects' greater vocabulary and skill development. There was also a significant difference between the pre- and posttest scores across the three grades ($F = 19.2660$, $df = 1/54$, $p < .0001$). No significant difference was found in the interaction of grade and testing time.

Insert Table 3 about here

In the third grade the number of masters went from 25% (N = 4) on the pretest to 41% (N = 7) on the posttest. In fourth grade the number of masters went from 37% (N = 9) to 54% (N = 13). The fifth graders had 75% (N = 12) masters on the pretest and 81% (N = 13) masters on the posttest.

Conclusions and Implications

The significant differences between the experimental and control school supports the assumption that teaching a classification of context clues, such as cause and effect and direct description, will promote greater use of such clues and enhance the student's ability to determine the meaning of an unknown word in a sentence. However, since there were initial differences on pretest means between schools, it is difficult to generalize these findings to groups where experimental and control groups would be equal.

The significant differences between the pre-and posttest within the experimental school indicates that instruction in context clues using a classification scheme has improved student performance. This finding is

particularly noteworthy concerning the instructional aspect. The teachers used only the activities in the Wisconsin Design's Teacher's Resource File: Comprehension, since they did not have enough time to prepare their own materials during the ten days. In addition, they had little time to familiarize themselves with the Resource File activities as they only received them just prior to beginning instruction.

The nonsignificant interaction term between grade levels and testing time indicated that students in third, fourth, and fifth grades all showed the same amount of improvement. Since third graders' gains were comparable to those of the fifth graders, and since the number of masters from the pre- to posttest increased by 16%, instruction can be considered to have a positive effect at this level. The results may have been more striking if the test readability had been appropriate. The vocabulary and sentence structure was designed at a beginning fourth grade level. One implication is that instruction in certain categories of context clues (cause-effect and direct description), could begin at least by third grade--or perhaps even sooner with material of appropriate difficulty. The effectiveness of teaching other categories of context clues (e.g., contrast) at various levels should also be explored.

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Table 1

Pretest Means and Standard Deviations of Level D Context Clues Test for Experimental and Control Schools at each Grade Level

Grade	Condition					
	Experimental			Control		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD
3	17	6.47	3.37	23	9.22	2.41
4	24	7.46	3.51	22	10.0	2.18
5	16	9.81	2.00	31	10.29	2.60

Table 2

Two-way Analysis of Covariance Summary

for School and Grade Effects on Level D Context Clues

Source	Ms	df	F	p
School (exper., control)	15.2195	1/126	4.1219	< .05
Grade (3, 4, 5)	5.1059	2/126	1.3828	NS
Interaction (School x Grade)	.7421	2/126	.2010	NS

Table 3

Two-way Analysis of Variance Summary

on the Experimental Condition for Grade and

Testing Time Effects on Level D Context Clues

Source	Ms	df	F	P
Grade (3, 4, 5)	171.3050	2/54	5.8131	< .0052
Testing Time (Pre - Post)	27.3728	1/54	19.2660	< .0001
Interaction (Grade x Testing Time)	.3273	2/54	.2305	NS